

इंटरनेट

मानक

### Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

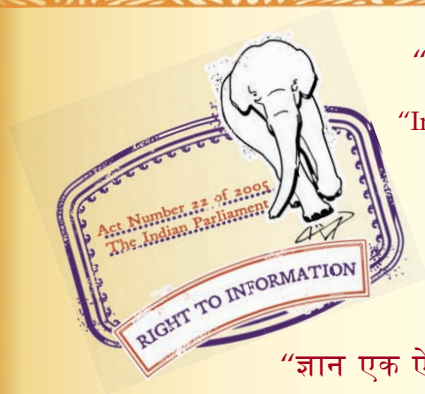
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3451-2 (1975): Code of practice for care and maintenance of brushes, Part 2 - Brushes other than pan set brushes  
[CHD 24: Brushware]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



BLANK PAGE



IS: 3451 (Part II)- 1975

*Indian Standard*

CODE OF PRACTICE FOR  
CARE AND MAINTENANCE OF BRUSHES  
PART II BRUSHES OTHER THAN PAN-SET BRUSHES

UDC 687.9



© Copyright 1975

INDIAN STANDARDS INSTITUTION  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

Price Rs 5.00 Gr 4 2

December 1975

# Indian Standard

## CODE OF PRACTICE FOR CARE AND MAINTENANCE OF BRUSHES

### PART II BRUSHES OTHER THAN PAN-SET BRUSHES

Brushware Sectional Committee, CDC 31

#### Chairman

SHRI SUBHASH RANJAN ROY

#### Representing

Prima Brushware, Calcutta

#### Members

SHRI K. C. AGARWAL

Association of State Road Transport Undertakings,  
New Delhi

DR P. K. BHANDARI

Indian Paints Association, Calcutta

CHEMIST & METALLURGIST-II,

Railway Board ( Ministry of Railways )

RDSO, LUCKNOW

WORKS MANAGER ( FINISH-  
ING ), C & W SHOPS, EASTERN  
RAILWAY, LILUAH ( Alternate )

SHRI DHARAM BIR

Army Brush Factory, Delhi

SHRI SRI RAM ( Alternate )

SHRI C. B. GARWARE

Garware Synthetic Bristles Pvt Ltd, Bombay

SHRI B. M. JEJURIKAR ( Alternate )

SHRI U. B. KANCHAN

Ministry of Defence ( R & D )

SHRI KEWAL K. MALHOTRA

Kewalraj & Co Pvt Ltd, Bombay

SHRI D. D. MEHRA

Brushware Ltd, Kanpur

SHRI E. LEVIGNE ( Alternate )

SHRI S. P. MULLICK

National Test House, Calcutta

SHRI P. K. PYNE ( Alternate )

SHRI NIRMAL SINGH

Ministry of Defence ( DGI )

SHRI K. H. GANDHI ( Alternate )

SHRI S. S. PURI

Directorate General of Supplies & Disposals,  
New Delhi

SHRI N. K. MURALIDHARA RAO

Directorate of Marketing & Inspection, Nagpur

SHRI S. JAYARAMAN ( Alternate )

SHRI BHOGILAL SHAH

Brushwell & Co, Calcutta

SHRI JAICHAND MEHTA ( Alternate )

SHRI G. G. SUTAONE

Development Commissioner, Small Scale Industries,  
New Delhi

SHRI S. C. PANDEY ( Alternate )

DR G. M. SAXENA,

Director General, ISI ( Ex-officio Member )

Director ( Chem )

#### Secretary

SHRI P. S. ARORA

Assistant Director ( Chem ), ISI

© Copyright 1975

INDIAN STANDARDS INSTITUTION

This publication is protected under the *Indian Copyright Act* (XIV of 1957) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

## *Indian Standard*

### **CODE OF PRACTICE FOR CARE AND MAINTENANCE OF BRUSHES**

#### **PART II BRUSHES OTHER THAN PAN-SET BRUSHES**

#### **0. F O R E W O R D**

**0.1** This Indian Standard ( Part II ) was adopted by the Indian Standards Institution on 15 September 1975, after the draft finalized by the Brushware Sectional Committee had been approved by the Chemical Division Council.

**0.2** The durability and the standard of performance of a brush greatly depend upon the care and maintenance of the same, both by the manufacturer and the consumer. Very often it is found that improper handling and careless storing of brushes lead not only to uneconomical use but also to unsatisfactory performance. Thus the formulation of a standard code of practice for care and maintenance has been thought of for helping the manufacturers as well as consumers of the brushes. Care and maintenance for pan-set brushes has already been dealt in Part I. This standard ( Part II ) covers the care and maintenance of brushes other than pan-set brushes.

**0.3** Care and maintenance of brushes differ, depending on their composition, construction and uses.

---

#### **1. SCOPE**

**1.1** This standard ( Part II ) lays down the practice to be followed in the care and maintenance of brushes other than pan set, that is, either stapled set, or wire drawn set or twisted-in-wire set.

#### **2. TERMINOLOGY**

**2.1** For the purpose of this standard, definitions of terms given in IS : 5060-1969\* shall apply.

#### **3. CLASSIFICATION**

**3.1** The brushes may be classified into two groups depending on: (a) the filling materials used, and (b) the end use.

---

\*Glossary of terms used in brushware industry.

**3.1.1** The following shall be the classification of brushes on the basis of filling material used:

- Group A    Made of animal hair, namely, bristle, catte-tail hair, etc.
- Group B    Made of vegetable fibre, namely, coco fibres, Palmyra fibre, Manila fibre, etc.
- Group C    Admixture of animal hair and vegetable fibre in different proportions.
- Group D    Synthetic fibre, namely, nylon monofilament.
- Group E    Made of metallic wire, namely, steel wire, brass wire, etc.

**3.1.2** The following shall be the classification of brushes on the basis of end use:

*Classification 1* — Brushes used for hygienic purposes, namely, tooth brush, hair brush, etc.

*Classification 2* — Brushes used for sanitation and cleaning purposes, namely, push sweeping brushes, banister brushes, carriage washing brushes, etc.

#### **4. CARE AND MAINTENANCE BEFORE USE**

##### **4.1 Damage Due to Insect or Micro-Organisms to Brushes Belonging to Groups A, B and C**

**4.1.1 Insect Damage** — New and unused brushes belonging to Groups A and C, which are made with animal hair either entirely or partially as filling materials, are more susceptible to attack of beetles, moths, etc, which directly eat the filling materials and thus damage the brush as a whole gradually. Other insects like pig lice and horse lice also do similar damage.

**4.1.2 Damage Due to Bacteria and Moulds** — Certain forms of bacteria and moulds, such as mildew attack, causes the filling materials discolouration and rotting. Fungi attack is very common to the filling materials of vegetable origin, when kept in moist atmosphere.

**4.1.3** To prevent insect attack, all costly brushes of Groups A, B and C excepting tooth brushes should be wrapped with tissue paper or polythene sheets and kept in a closed container together with naphthalene flakes or balls. The brushes may also be dusted with DDT powder. Tooth brush should be hygienically packed individually in paper board or plastics container.

**4.1.4** The tip ends of animal hair are the most vulnerable points of attack. Soft hair brushes are susceptible to such attack. Brushes of Groups A and C should, therefore, be flitted periodically to dislodge the eggs if laid down in the interval, after exposing to sun for a while.

**4.2 Sterilization** — Brushes of Groups A1 and B1 should be sterilized thoroughly by washing the same in a hot disinfecting solution of 1 percent antiseptic solution or in hot water before use. This process should be continued periodically during the whole span of utilization.

**4.3 Prevention from Dust and Polluted Atmosphere** — Brushes belonging to Groups A1 and D1 and clothes brushes of any group should be kept in dust-proof packet to protect against polluted atmosphere.

#### **4.4 Damage Due to Corrosion**

**4.4.1** Brushes belonging to Group E and brushes of other groups, which are twisted in wire generally get damaged by corrosion of the metallic portion especially when the metal is ferrous.

**4.4.2** To protect from this type of damage, the metallic portion of the brush — whether filling materials or twisted wires — should be covered with a thin coat of drying oil and should then be stored in dry place (if possible, having been wrapped in oil paper or tar paper).

### **5. CARE OF BRUSHES DURING USE**

#### **5.1 Choice of Brush**

**5.1.0** Care in the selection of brush for a particular purpose is necessary for economic performance.

**5.1.1** A brush of correct size and type should be selected depending on the nature of work. For instance, clothes brush should be used for dusting off clothing and hair brush for dressing hair and not *vice versa*. Similarly, nail cleaning brush should be used for cleaning nails only. Again in case of tooth brush, adult size should be used by adults and junior size by juniors. The requisite size and quality of tooth brush should be determined depending on the nature of the teeth and the condition of the gums. This holds good for all groups and types of brushes.

**5.2 Correct Use** — All types of brushes belonging to Groups A, B, C and D should be used with light pressure. A few examples citing the proper use of common types of brushes are given in 5.2.1 to 5.2.9.

**5.2.1 Tooth Brush** — The brush with paste should be applied slowly on the teeth in circular movement, with mild pressure, to clean the teeth. Unusual pressure will not only bring deformity in the filling materials earlier, but may harm the gums and teeth.

**NOTE** — Care should be taken not to use deformed and worn out brush. A brush once used by one should not be used by others.

**5.2.2 Nail Cleaning Brush** — This brush should be used slowly with straight to-and-fro motion with mild pressure to clean the nails specially their tips. Unusual pressure may cause harmful effect on the finger tips.

**5.2.3 Hair Brush** — This is required for dressing hair, simultaneously cleaning foreign matter from them and massaging the head. With a straight stroke and mild pressure the brush should be driven through the hair just over the head, otherwise the skin may get damaged. In this case also the brush used by one should not be used by others.

**5.2.4 Clothes Brush** — This brush is used for dusting off or dry cleaning of clothing mainly. Sometimes it is used in conjunction with some sort of cleaning solution. In all types of functions, straight stroke with mild pressure is advisable. Deep and hard stroke may spoil the texture of the cloth cleaned.

**5.2.5 Carriage Washing Brush** — This brush is required for the removal of dirt and undesirable marks from painted surfaces of the carriage body accumulated during service by some sort of cleaning solution, generally soluble in water.

**5.2.5.1** A circular movement with mild pressure throughout the process of washing including the application of cleaning solution is advisable. A heavy pressure will cause deformity and unusual wearing of the filling materials, at the same time it may leave undesirable scratch marks on the surface cleaned.

**5.2.6 Banister Brush** — This brush is used for dry sweeping. This should be applied in straight stroke with light pressure. Heavy pressure may impart scratch marks, and deformity in the shape of filling material may develop earlier.

**5.2.7 Shoe Blacking and Shoe Polishing Brushes** — Both the brushes are filled in with cattle tail hair or coarse bristles. The first one is required for the application of shoe cream or shoe polish on the leather surface of mainly shoes, while the second one is required for glazing the same. In the first case a circular stroke will give better effect while in the second case straight stroke will give better effect. In both the cases, however, mild pressure should be advocated, as heavy pressure will only cause deformity and unusual wearing of the filling materials.

**5.2.8 Brushes with Metallic Filling Material** — These types of brushes are generally required for dislodging/removing foreign materials from hard metallic surfaces. In these cases also, the brushes are required to rub down against the surface with moderate pressure and in some cases circular stroke gives better results. Heavy pressure will only spoil the shape of the brush either by unusual wearing or by deformation of filling materials.

## **IS: 3451 ( Part II ) - 1975**

**5.2.9 Boiler Tube Brush** — This brush is made of steel wire set in by twisted wire. The size of the brush should be selected just to suit the tube. A size slightly bigger than the inner diameter of the tube is preferable. Too big a size will spoil both the brush and the tube and a smaller size will fail to serve the purpose.

**5.2.9.1** After use, this brush should be washed thoroughly with kerosene and stored in dry place in the vertical position so that the filling material does not get any deformity.

## **6. CARE AND MAINTENANCE AFTER USE**

### **6.1 Cleaning**

**6.1.1** All types of brushes belonging to Groups A, B, C and D should be cleaned thoroughly by flitting in case the brushes are used dry, and by washing with clean water when they are used wet in conjunction with cleaning solution soluble in water. It should then be dried preferably by hot blast of dry air and stored in a clean dry place.

**6.1.2** In case of tooth brush, nail brush, clothing brush, hair brush, etc, they should be kept in a dust-proof packet after thoroughly cleaning and drying.

**6.1.3** In case of shoe blacking and shoe polishing brushes, frequent washing is not necessary, but they should be kept in dust-proof packet. Occasionally, these brushes may be required to be cleaned by kerosene, then by soap solution ( preferably non-causticised one ), finally by thorough rinsing in water, dried and kept in dust-proof packet.

**6.1.4** Typewriter brushes should be cleaned every time after use in petrol and kept in dust-proof packet when dried.

**6.1.5** Metallic brushes ( Group E ) specially of ferrous type should never be washed in water. In case cleaning is necessary, kerosene should be used as cleaning medium. But after such cleaning the brush should be dipped into a non-drying oil bath, soluble in kerosene, to guard against corrosion, after which they should be wrapped in oil paper or tar paper and stored in dry place. This film of non-drying oil should, however, be washed before use on the next occasion.

**6.1.6 De-rusting** — In case the filling material or the twisted wire of iron, as the case may be, in brushes belonging to Group E has already started corroding, it is advisable to de-rust the affected portion by dipping into a solution containing preferably de-rusting cum phosphating agent. After this, the brush should be treated with a coat of varnish or boiled linseed oil by dipping it in a bath containing varnish or oil as the case may be, for protecting against further corrosion.

**6.2 Treatment to Wooden Handles**—The wooden handles of brushes, which are used frequently in conjunction with water or some cleaning solution that affect the wooden handles, should occasionally be painted or varnished or at least treated with a coat of boiled linseed oil in order to protect them from rotting.

## **7. RECONDITIONING**

**7.1** When deformity of filling materials of brushes belonging to Groups A, B, C or D has developed due to long or improper use, or due to wrong process of storing, they may be reconditioned by trimming the obstinate filling materials, to the extent necessary, in case the same could not be brought to proper shape by any mechanical means.

**7.2** In case this deformity takes place in metallic brushes of Group E, in the form of spreading out of filling materials, the same may be set right by straightening them through some mechanical device.

# INDIAN STANDARDS

## ON

## BRUSHWARE

IS:

- 384-1971 Brushes, paints and varnishes, flat ( *third revision* )
- 486-1973 Brushes, sash tool, for paints and varnishes ( *second revision* )
- 487-1966 Brushes, paints and varnish (i) oval, ferrule bound, and (ii) round, copper wire bound ( *revised* )
- 1103-1971 Brushes, artists' ( *second revision* )
- 1104-1968 Brushes, lettering ( *first revision* )
- 1843-1963 Nylon monofilaments
- 1844-1962 Bristles
- 2616-1963 Brush, (i) cleaning tank, and (ii) commode and lavatory
- 2621-1964 Brush, commode chutes
- 2622-1964 Brush, banister ( hand-sweeping ), single
- 2701-1964 Brush, carriage washing ( without handle )
- 3008-1964 Brush, shoe blacking
- 3009-1971 Brushes, shoe polishing
- 3015-1964 Brush, scrubbing
- 3387-1973 Toothbrush ( *first revision* )
- 3451 ( Part I )-1966 Code of practice for care and maintenance of brushes: Part I Pan-set brushes
- 3451 ( Part II )-1975 Code of practice for care and maintenance of brushes: Part II Brushes other than pan-set brushes
- 4208-1967 Brush, stencil
- 4214-1967 Brushes, boiler tube ( without shank )
- 4301-1967 Brushes, foundry, flat
- 4517-1967 Brush, welders'
- 4580-1968 Brushes, shaving
- 4584-1968 Brushes, hair
- 5060-1969 Glossary of terms used in brushware industry
- 5078-1969 Brushes, typewriter
- 5080-1969 Brushes, nail cleaning
- 5207-1969 Brushes, clothes
- 5565 ( Part I )-1969 Dental brushes, engine: Part I Brushes for use with straight and right-angle hand pieces
- 5565 ( Part II )-1969 Dental brushes, engine: Part II Brushes for use with porte polisher
- 5683-1970 Brushes, push-sweeping ( without handle )
- 7457-1974 Brushes, flue
- 7477-1974 Brushes, harness hard

# PUBLICATIONS OF INDIAN STANDARDS INSTITUTION

## INDIAN STANDARDS

Over 8 000 Indian Standards covering various subjects have been issued so far. Of these, the standards belonging to the Chemical Group fall under the following categories:

Acids	Linters and allied products
Adhesives	Lubricants and related products
Alcohols and allied products	Oil pastes
Alkalis	Oils & fats, oleaginous seeds and fruits
Brushware	Painters' materials (miscellaneous)
Ceramicware, enamelware and laboratory porcelain	Paper and its products
Chemical hazards and safety	Paper and pulp board packaging materials
Chemicals, inorganic (miscellaneous)	Perfumery materials, natural and synthetic
Chemicals, organic (miscellaneous)	Petroleum and petroleum products
Coal and coke	Photographic chemicals
Coal carbonization products	Pigments and extenders
Coated fabrics	Plastics
Cosmetics and toilet goods	Polishes
Dental materials	Printing inks
Drying oils	Ready mixed paints and enamels
Dye intermediates	Rubber and rubber products
Electroplating chemicals	Soaps and other surface active agents
Explosive and pyrotechnic materials	Tanning materials and allied products
Fertilizers	Thermal insulation materials
Fillers, stoppers and putties	Thinners and solvents
Footwear	Varnishes and lacquers
Glass and glassware	Water and water treatment
Industrial gases	Water based paints
Inks and allied products	Unclassified
Laboratory glassware thermometers and related apparatus	
Lac and lac products	
Leather, leather goods and leather dressings	

## OTHER PUBLICATIONS

ISI Bulletin ( Published Every Month )			
Single Copy	...	...	Rs 4-00
Annual Subscription	...	...	Rs 36-00
Standards : Monthly Additions			
Single Copy	...	...	Rs 0-30
Annual Subscription	...	...	Rs 3-00
Annual Reports ( from 1948-49 Onwards )	...	...	Rs 2-00 to 6-00
ISI Handbook, 1975	...	...	Rs 30-00

## INDIAN STANDARDS INSTITUTION

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephone : 27 01 31 ( 20 lines )

Telegrams : Manaksanstha

### Regional Offices :

Western :	Novelty Chambers, Grant Road	BOMBAY 400007	Telephone 37 97 29
Eastern :	5 Chowringhee Approach	CALCUTTA 700072	23-08 02
Southern :	54 General Patters Road	MADRAS 600002	8 37 81

### Branch Offices :

' Pushpak ', Nurmohamed Shaikh Marg, Khanpur	AHMEDABAD 380001	2 03 91
' F ' Block, Unity Bldg, Narasimharaja Square	BANGALORE 560002	2 76 49
Kothi No. 90, Sector 18A	CHANDIGARH 160018	2 83 20
5-8-56/57 Nampally Station Road	HYDERABAD 500001	4 57 11
117/418 B Sarvodaya Nagar	KANPUR 208005	82 72
B.C.I. Bldg ( Third Floor ), Gandhi Maidan East	PATNA 800004	2 56 55